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Michael Swab

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EXAMINER

ANGWIN, DAVID PATRICK

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/537,990	Applicant(s) SWAB, MICHAEL	
	Examiner DAVID P. ANGWIN	Art Unit 3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6/9/05 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/9/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections – 35 USC § 103

The following is a quotation of 35 U.S.C. § 103(a) that forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically taught or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. § 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Endo et al* (EP Patent 1 251 725).

Regarding **claim 1**:

- a. *Endo et al* discloses the following in his reference:
- i. a carriage (Fig. 1, item 3) to which a feeder plate mechanism (Figs. 1 and 2-6, item 2) is mounted, wherein a feeder plate mechanism provides external feeder connectors (Fig. 4, item 39, and Fig. 3, item 78) from a surface mount machine (Fig. 4, items 23 and 33) to the feeder plate mechanism; and

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- ii. a plurality of feeder mechanisms (Fig. 1, item 7) that are received by said feeder plate mechanism, wherein said feeder mechanisms provide internal feeder connectors (Fig. 2, item 19) from said feeder plate mechanism to said plurality of feeder mechanisms, and wherein said feeder plate mechanism adapts said external feeder connectors to said internal feeder connectors (Fig. 4, item 23 to item 19).
- b. *Endo et al* does not expressly disclose the following in his reference:
- i. said **carriage** provides external feeder connectors from a surface mount machine to the feeder plate mechanism.
- c. However, the advantage of designing external feeder connectors on the carriage to connect a feeder plate mechanism to a surface mount machine is to more conveniently connect and disconnect the feeder plate mechanism from the surface mount machine due to the carriage being more easily accessible than the back side of the feeder plate mechanism.
- d. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify:
- 1. a carriage with a feeder plate mechanism and external feeder connector to connect the feeder plate mechanism to the surface mount machine that does not expressly include connecting the feeder plate mechanism to the surface mount machine through the carriage as disclosed by *Endo et al*; with
 - 2. a carriage with a feeder plate mechanism and external feeder connector to connect the feeder plate mechanism to

the surface mount machine that includes connecting the feeder plate mechanism to the surface mount machine through the carriage;

to more conveniently connect and disconnect the feeder plate mechanism from the surface mount machine due to the carriage being more easily accessible than the back side of the feeder plate mechanism.

Regarding **claim 2**:

- a. In addition to the limitations in claim 1, *Endo et al* discloses the following in his reference:
 - i. said external feeder connectors comprise pneumatic and electrical connections (Fig. 4, items 23 and 33; 50:10-16).

Regarding **claim 3**:

- a. In addition to the limitations in claim 1, *Endo et al* discloses the following in his reference:
 - i. said internal feeder connectors comprise pneumatic and electrical connections (Fig. 2, items 19 and 23 and 33; 50:10-16).

Regarding **claim 4**:

- a. In addition to the limitations in claim 1, *Endo et al* discloses the following in his reference:

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- i. a switch within the surface mount machine is configured to enable an operator to select a type of feeder mechanism within said interface device (25:21-24; Fig. 1, *the examiner notes that this figure shows a central processing unit attached to the surface mount machine item 1 and further remarks that a chip mounting head would contain a software switch to indicate the appropriate component feeder to select based upon the type of component demanded by the program*).

Regarding **claim 5**:

- a. In addition to the limitations in claim 1, *Endo et al* discloses the following in his reference:
 - i. positioning pins within said interfacing device align components coupled by said internal feeder connectors (Fig. 3, item 76) and said external feeder connectors (Fig. 4, item 29).

Regarding **claim 6**:

- a. In addition to the limitations in claim 1, *Endo et al* discloses the following in his reference:
 - i. said feeder plate mechanism comprises a top plate assembly used to couple said feeder plate mechanism to the surface mount machine (Figs. 2 and 4, item 11).

Regarding **claim 7**:

- a. In addition to the limitations in claim 1, *Endo et al* discloses the following in his reference:

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- i. said carriage comprises a tape dump operable to catch spent feeder tape expended by one of the feeder mechanisms (Fig. 1, item 10).

Regarding **claim 8**:

- a. In addition to the limitations in claim 1, *Endo et al* discloses the following in his reference:
 - i. said carriage comprises rolling members that are configured to enable an operator to easily reposition the interfacing device to and from the surface mount machine (Fig. 6, item 41; *see wheels*).

Regarding **claim 9**:

- a. In addition to the limitations in claim 1, *Endo et al* discloses the following in his reference:
 - i. said feeder plate mechanism comprises one or more locks to secure said feeder mechanisms within said feeder plate mechanism (Fig. 4, item 27).

Regarding **claim 10**:

- a. In addition to the limitations in claim 1, *Endo et al* discloses the following in his reference:
 - i. said carriage comprises a frame of adjustable height (Fig. 1, *see carriage with adjustable vertical arms*).

Regarding **claim 11**:

- a. *Endo et al* discloses the following in his reference:
 - i. mounting a feeder plate mechanism (Figs. 1 and 2-6, item 2) to a carriage (Fig. 1, item 3), wherein a feeder plate mechanism provides external feeder connectors (Fig. 4, item 39, and Fig. 3, item 78) from a surface mount machine (Fig. 4, items 23 and 33) to the feeder plate mechanism;
 - ii. connecting a plurality of feeder mechanisms (Fig. 1, item 7) to said feeder plate mechanism, wherein said feeder mechanisms couple to said feeder plate mechanism via internal feeder connectors (Fig. 2, item 19), and wherein said feeder plate mechanism adapts said external feeder connectors to said internal feeder connectors (Fig. 4, item 23);
 - iii. coupling said carriage to the surface mount machine (Fig. 1); and
 - iv. selecting via a switch within the surface mount machine the type of feeders contained within said feeder plate mechanism (25:21-24; Fig. 1, *the examiner notes that this figure shows a central processing unit attached to the surface mount machine item 1 and further remarks that a chip mounting head would contain a software switch to indicate the appropriate component feeder to select based upon the type of component demanded by the program*).
- b. *Endo et al* does not expressly disclose the following in his reference:
 - i. said **carriage** provides external feeder connectors from a surface mount machine to the feeder plate mechanism.
- c. However, the advantage of designing external feeder connectors on the carriage to connect a feeder plate mechanism to a surface mount machine

is to more conveniently connect and disconnect the feeder plate mechanism from the surface mount machine due to the carriage being more easily accessible than the back side of the feeder plate mechanism.

d. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify:

1. a carriage with a feeder plate mechanism and external feeder connector to connect the feeder plate mechanism to the surface mount machine that does not expressly include connecting the feeder plate mechanism to the surface mount machine through the carriage as disclosed by *Endo et al*; with
2. a carriage with a feeder plate mechanism and external feeder connector to connect the feeder plate mechanism to the surface mount machine that includes connecting the feeder plate mechanism to the surface mount machine through the carriage;

to more conveniently connect and disconnect the feeder plate mechanism from the surface mount machine due to the carriage being more easily accessible than the back side of the feeder plate mechanism.

Regarding **claim 12**:

a. In addition to the limitations in claim 11, *Endo et al* discloses the following in his reference:

- i. said external feeder connectors comprise pneumatic and electrical connections (Fig. 4, items 23 and 33; 50:10-16).

Regarding **claim 13**:

- a. In addition to the limitations in claim 11, *Endo et al* discloses the following in his reference:
 - i. positioning pins within said interfacing device align components coupled by said internal feeder connectors (Fig. 3, item 76) and said external feeder connectors (Fig. 4, item 29).

Regarding **claim 14**:

- a. In addition to the limitations in claim 11, *Endo et al* discloses the following in his reference:
 - i. said feeder plate mechanism comprises a top plate assembly used to couple said feeder plate mechanism to the surface mount machine (Figs. 2 and 4, item 11).

Regarding **claim 15**:

- a. In addition to the limitations in claim 11, *Endo et al* discloses the following in his reference:
 - i. said carriage comprises a tape dump operable to catch spent feeder tape expended by one of the feeder mechanisms (Fig. 1, item 10).

Regarding **claim 16**:

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- a. In addition to the limitations in claim 11, *Endo et al* discloses the following in his reference:
 - i. said carriage comprises rolling members that are configured to enable an operator to easily reposition the interfacing device to and from the surface mount machine (Fig. 6, item 41; see *wheels*).

Regarding **claim 17**:

- a. In addition to the limitations in claim 11, *Endo et al* discloses the following in his reference:
 - i. said feeder plate mechanism comprises one or more locks to secure said feeder mechanisms within said feeder plate mechanism (Fig. 4, item 27).

Regarding **claim 18**:

- a. In addition to the limitations in claim 11, *Endo et al* discloses the following in his reference:
 - i. said carriage comprises a frame of adjustable height (Fig. 1, see *carriage with adjustable vertical arms*).

Regarding **claim 19**:

- a. *Endo et al* discloses the following in his reference:
 - i. a carriage (Fig. 1, item 3) to which a feeder plate mechanism (Figs. 1 and 2-6, item 2) is mounted, wherein a feeder plate mechanism provides external feeder connectors (Fig. 4, item 39, and Fig. 3, item 78) from a surface mount machine (Fig. 4, items 23 and 33) to the feeder plate mechanism, and wherein said external feeder

connectors comprise pneumatic and electrical connections (Fig. 4, items 23 and 33; 50:10-16);

- ii. a plurality of feeder mechanisms (Fig. 1, item 7) that are received by said feeder plate mechanism, wherein said feeder mechanisms provide internal feeder connectors (Fig. 2, item 19) from said feeder plate mechanism to said plurality of feeder mechanisms, wherein said internal feeder connectors comprise pneumatic and electrical connections (Fig. 4, items 23 and 33; 50:10-16), wherein said feeder plate mechanism adapts said external feeder connectors to said internal feeder connectors (Fig. 4, item 23), and wherein mechanical stops (Fig. 2, item 7a; *the examiner notes that the illustration shows the cassette abutting the feeder plate mechanism*) and positioning pins (Fig. 3, item 76) secure said feeder mechanisms within said feeder plate mechanism; and
 - iii. a means for selecting a type of feeder mechanism contained within said interface device (25:21-24; Fig. 1, *the examiner notes that this figure shows a central processing unit attached to the surface mount machine item 1 and further remarks that a chip mounting head would contain a software switch to indicate the appropriate component feeder to select based upon the type of component demanded by the program*).
- b. *Endo et al* does not expressly disclose the following in his reference:
- i. said **carriage** provides external feeder connectors from a surface mount machine to the feeder plate mechanism, and wherein said external feeder connectors comprise pneumatic and electrical connections.
- c. However, the advantage of designing external feeder connectors on the carriage to connect a feeder plate mechanism to a surface mount machine is to more conveniently connect and disconnect the feeder plate

mechanism from the surface mount machine due to the carriage being more easily accessible than the back side of the feeder plate mechanism.

d. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify:

1. a carriage with a feeder plate mechanism and external feeder connector to connect the feeder plate mechanism to the surface mount machine that does not expressly include connecting the feeder plate mechanism to the surface mount machine through the carriage as disclosed by *Endo et al*; with
2. a carriage with a feeder plate mechanism and external feeder connector to connect the feeder plate mechanism to the surface mount machine that includes connecting the feeder plate mechanism to the surface mount machine through the carriage;

to more conveniently connect and disconnect the feeder plate mechanism from the surface mount machine due to the carriage being more easily accessible than the back side of the feeder plate mechanism.

Regarding **claim 20**:

a. In addition to the limitations in claim 19, *Endo et al* discloses the following in his reference:

- i. said carriage comprises a tape dump operable to catch spent feeder tape expended by one of the feeder mechanisms (Fig. 1, item 10);

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- ii. said carriage comprises rolling members that are configured to enable an operator to easily reposition the interfacing device to and from the surface mount machine (Fig. 6, item 41; see *wheels*);
- iii. said carriage comprises a means for adjusting a height of said carriage (Fig. 1, see *carriage with adjustable vertical arms*).

Regarding **claim 21**:

- a. In addition to the limitations in claim 8, *Endo et al* discloses the following in his reference:
 - i. said rolling members are casters (Fig. 10, item 41; *the examiner notes that the wheels in the illustration appear to be casters*).

Regarding **claim 22**:

- a. In addition to the limitations in claim 16, *Endo et al* discloses the following in his reference:
 - i. said rolling members are casters (Fig. 10, item 41; *the examiner notes that the wheels in the illustration appear to be casters*).

Regarding **claim 23**:

- a. In addition to the limitations in claim 20, *Endo et al* discloses the following in his reference:
 - i. said rolling members are casters (Fig. 10, item 41; *the examiner notes that the wheels in the illustration appear to be casters*).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David P. Angwin, whose telephone number is (571) 270-3735. The examiner can normally be reached on 7:30 AM - 5 PM (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Victor Batson can be reached on 703-272-6987. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DPA

/Peter Vo/
Supervisory Patent Examiner, Art Unit 3729